2. The power supply according to claim 1, further comprising means for regulating a transformed output) from said converter circuit to a standby voltage, said means being coupled back to said gate circuit for controlling operation of said power converter circuit in response to load changes to said power supply.

3. The power supply according to claim 1, wherein said power converter comprises a self-oscillating circuit and said gate circuit enables operating of said self-oscillating circuit only during two periods of each cycle of said supply from said AC mains when said supply has a single voltage polarity.

4. The power supply according to claim 1, wherein said gate circuit comprises a threshold detector circuit for generating voltage pulses when detecting portions of positive waveforms of said mains voltage within said predetermined range.

5. The power supply according to claim 4, wherein said threshold detector comprises a transistor biased at its base terminal by a first voltage division of said positive waveforms to pass said voltage pulses from a second voltage division of said positive waveforms .

6. The power supply circuit of claim 5, wherein said first voltage division comprises a resistor pair divider coupled to a base terminal B of said transistor, and said second voltage division comprises a resistor pair coupled to said positive waveforms and an emitter terminal of said transistor.

7. The power supply circuit of claim 4, wherein said power converter circuit comprises a free running oscillator circuit for converting said voltage pulses from said gate circuit at a first frequency to current pulses at a second frequency greater than said first frequency.

8. The power supply circuit of claim 7, wherein said free running oscillator circuit comprises a transistor biased at its base terminal B by said voltage pulses that are rectified by a first diode and then charge a first capacitor for enabling said second transistor to conduct said current pulses, said current pulses being derived from said positive waveforms ripple attenuated by a second capacitor coupled to an emitter terminal of said second transistor, said positive waveforms energizing a primary winding of a transformer to

develop in a flyback manner a secondary winding voltage across a secondary winding of said transformer.

9. The power supply circuit of claim 7, further comprising a voltage regulating circuit coupled to a secondary winding of a transformer having a primary winding coupled to said free running oscillator circuit, said secondary winding developing a secondary voltage from said current pulses conducted through a primary winding of said transformer.

10. The power supply circuit of claim 9, wherein said voltage regulating circuit comprises an integrated voltage regulator coupled to a diode and a first capacitor arrangement for rectifying and filtering said current pulses from said secondary winding to provide a secondary voltage stabilized by said integrated voltage regulator, said secondary voltage being filtered by a second capacitor to provide a standby voltage .

11. The power supply circuit of claim 7, further comprising a voltage regulating circuit coupled to a secondary winding of a transformer having a primary winding through which said current pulses controllably conduct to develop a secondary winding voltage that is coupled back to and adjust on-time operation of said threshold detector circuit .

12. A synchronous burst mode standby power supply comprising:

a self-oscillating power converter for receiving an AC mains supply;

a transformer primary winding coupled to said power converter and receiving pulses therefrom for generating a supply of power at a secondary winding of said transformer; and

a gate circuit coupled to said AC mains supply and said power converter, wherein said gate circuit enable operation of said self-oscillating power converter while a momentary amplitude of said AC mains supply cycles through a predetermined range.

13. The power supply circuit of claim 12, wherein said gate circuit comprises a threshold detector for generating voltage pulses when detecting positive waveforms of said mains voltage below a threshold.

14. The power supply circuit of claim 13, wherein said threshold detector comprises a transistor biased at its base terminal by a first voltage division of said positive waveforms to pass said voltage pulses from a second voltage division and filtering of said positive waveforms .

15. The power supply circuit of claim 14, wherein said first voltage division

comprises a first resistor pair divider coupled to a base terminal B of said transistor, and said second voltage division comprises a second resistor pair coupled between said positive waveforms and an emitter terminal of said transistor .

16. The power supply circuit of claim 2, wherein said self-oscillating power converter circuit converts said voltage pulses at a first frequency to current pulses at a second frequency greater than said first frequency.

17. The power supply circuit of claim 16, further comprising a voltage regulating circuit coupled to a secondary winding of a transformer having a primary winding through which said current pulses controllably conduct to develop a secondary winding voltage that is coupled back to said threshold detector for influencing on-time operation of said self-oscillating power converter.

18. The power supply circuit of claim 17, wherein said voltage regulating circuit comprises an integrated voltage regulator, coupled to a diode D6 and capacitor arrangement, for receiving said secondary winding voltage and providing a voltage input for said integrated voltage regulator, and an opto-coupler coupled to said integrated voltage regulator for conducting current derived from said secondary winding voltage back to said threshold detector when said voltage input is above a reference voltage.

19. The power supply circuit of claim 18, wherein said reference voltage is developed across a resistor and zener diode arrangement coupled between the voltage input and said opto-coupler.

20. A method for providing synchronous burst mode power comprising the steps of:

receiving an AC mains supply at a relatively low frequency;

detecting when a momentary amplitude of said AC mains supply occurs within a predetermined range, and

initiating a burst of output pulses at a higher frequency than said relatively low frequency responsive to said detecting step.